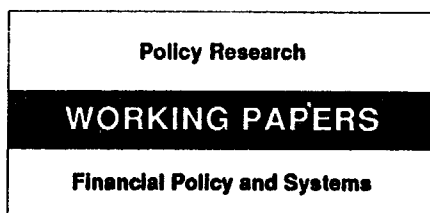


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Are Failproof Banking Systems Feasible? Desirable?

Samuel H. Talley

A proposed failproof-banking system that could both benefit and harm developing countries.

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This paper — a product of the (former) Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in the department to study issues associated with the structure, operation, and soundness of banking and financial systems. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Bobo Lu, room N9-005, extension 37664 (February 1993, 19 pages).

In recent years, instability of the banking system has returned as a major problem in many countries, particularly in the developing world. In many cases, this instability has been so threatening to financial intermediation and the functioning of the payments system that governments have felt compelled to intervene and restructure banks, often at considerable cost to the public budget.

One response to these problems has been a proposal to create failproof banking systems — to radically transform the structure, priorities, and operation of the banking and financial systems. Banks would be limited to issuing deposits, holding essentially riskless portfolios, and operating the payments system. To minimize the resulting disruptions to the financial system, banks would be authorized (and encouraged) to set up holding companies and then transfer to holding company affiliates all the functions — including lending — that banks would no longer be permitted to perform. So while the failproof-banking proposal would severely restrict the activity of *banks*, it would not restrict the activities of *banking organizations* that convert to a holding company form of organization.

This proposal would produce major public benefits. It would assure a nation of a smoothly

functioning banking and payments system, would substantially reduce the resources committed to banking supervision, would prevent bank-type regulation from expanding to the rest of the financial system, and would place banking and nonbanking organizations on a level playing field for the financial activities in which they compete.

There are two major problems with the proposal. First, it might be difficult to implement because of too few riskless assets in a nation's financial system. (Talley suggests several modifications that would alleviate this problem in some countries.) Second, the proposal might hurt the financial market by (1) increasing interest rates for higher-risk borrowers, forcing them out of the market, and (2) transferring greater risk to the nonbank sector of the financial system, making it more susceptible to crisis.

Although the proposal would benefit developing countries (more prone to banking instability) more than industrial countries, it would also be more difficult to implement in developing countries. And the adverse effects of the proposal would be felt more severely in the financial markets of developing countries than in industrial countries, which have deeper, more responsive financial markets.

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**Financial Policy and Systems Division
Country Economics Department
World Bank**

**FAIL-PROOF BANKING SYSTEMS:
WOULD THEY BE FEASIBLE
AND DESIRABLE?**

Samuel H. Talley

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FAIL-PROOF BANKING SYSTEMS: WOULD THEY BE FEASIBLE AND DESIRABLE?

Samuel H. Talley *

In the last decade or so, banking instability has again emerged as a serious economic problem. While this instability has been particularly prevalent in the developing countries, it has also afflicted such relatively stable and prosperous countries as the United States and Norway. In order to avoid potentially serious damage to their financial systems and payments mechanisms, governments in most of these countries have felt compelled to intervene and restructure some or all of the banks in trouble, often at considerable cost to the public budget. Subsequently, many of these governments also have taken steps to diminish the risk of future instability. These steps have included strengthening the prudential provisions of the banking law, improving bank supervisory policies and procedures, upgrading bank accounting and auditing, and, in some countries, introducing some form of deposit insurance. To date, these remedial efforts appear to have had mixed results, as instability has reoccurred in some of the countries.¹

* The author wishes to thank Andrew Sheng, Gerald Caprio, Ross Levine and Robert Lawrence for helpful comments on an earlier draft of this paper.

¹For a detailed discussion of the causes of banking instability in recent years and the efforts that governments have made to counter the problem, see The World Bank, World Development Report, 1989.

Given the inability of many countries to achieve banking stability, this study presents and evaluates a proposal to create fail-proof banking systems. This proposal is similar in form to the so-called "narrow bank" proposal that was originally developed in the United States in the mid 1980s and has since been discussed extensively in both public policy and academic circles in that country.² However, unlike the narrow bank proposal, which was basically designed to expand the permissible activities of banking organizations, the primary objective of the fail-proof banking proposal is to assure that nations will permanently have sound banking systems and dependable payments mechanisms.

The fail-proof banking proposal is based on the proposition that nations have inappropriately ranked the priorities of their financial system, have misallocated functions among major entities in the system, and have improperly distributed risk among these entities. With specific regard to the banking system, nations have given banks the crucial functions of operating the payments system and providing the bulk of the nation's money supply, and then have allowed banks to take risks and engage in various nonessential functions that have often undermined the effective performance of their crucial functions.

To change this situation, the fail-proof banking proposal would radically alter the structure and operation of the banking and financial system. Henceforth, banks would be confined to issuing deposits, holding riskless portfolios, and operating the payments system. These restrictions would sever the traditional link between banks issuing deposits and lending to the public. The proposal also calls on banks to convert to the bank holding company form

²The narrow bank proposal was originally developed by Robert J. Lawrence and was subsequently elaborated upon by Robert Litan. For a detailed discussion of the proposals, see Robert J. Lawrence, "Minimizing Regulation of the Financial Services Industry," Issues in Bank Regulation, (Summer 1985), pp. 22-31; and Robert Litan, What Should Banks Do?, The Brookings Institution, 1987. For a high level government review of the proposal, see United States Department of Treasury, Modernizing the Financial System: Recommendations for Safer, More Competitive Banks, February 1991, pp. VII 24-30.

of organization, and then transfer to holding company affiliates all of the functions, including lending, that banks would no longer be permitted to perform. Accordingly, while the fail-proof banking proposal would greatly restrict the activities of banks, it would not restrict the activities of banking organizations that choose to operate through the holding company device.

This study is contained in six sections. Following this introductory section, the fail-proof banking proposal is described in detail in section two. In the third section, the major public benefits that would be derived from the proposal are identified and evaluated. The fourth section discusses possible implementation problems that could make the proposal infeasible, and then offers ways to overcome these problems. The fifth section discusses the financial market effects of the proposal and identifies the two major social costs associated with fail-proof banking. The sixth section summarizes the study and offers some concluding thoughts, including the applicability of fail-proof banking to developed versus developing countries.

Creating a Fail-Proof Banking System

In the world of fail-proof banking, banks would operate much like present day money market funds. On the liability side of their balance sheet, fail-proof banks would be limited to issuing only transactions and short-term time deposits. Banks would be encouraged to pay market rates of interest on these deposits and to levy service charges for processing transactions that would fully cover the bank's costs. Banks also would be the only

institutions in the economy that would be permitted to issue payments instruments, thereby giving banks a monopoly on the operation of the payments mechanism. On the asset side of their balance sheets, fail-proof banks would be required to hold essentially riskless portfolios. To accomplish this objective, banks would be limited to acquiring assets that have no credit risk. In addition, fail-proof banks would be required to avoid any meaningful amount of interest rate risk by holding relatively short-term assets, thereby closely matching the repricing intervals of their assets and liabilities. Finally, banks would be forbidden to engage in various risk-bearing activities (such as bond trading, foreign exchange operations, and issuing various forms of guarantees), because these activities could result in losses and cause banks to fail.

Even with these severe restrictions on banks, it would not be possible to totally eliminate risk. Moreover, there is always the possibility that a bank might become a victim of fraud. Consequently, fail-proof banks would be required to maintain a small amount of equity capital to act as a buffer against these irreducible risks.

In order to assure the achievement of a fail-proof banking system, several other conditions should prevail. First, the government should conduct periodic examinations of fail-proof banks to assure that these banks were operating in accordance with all fail-proof restrictions and were not subject to fraud. These examinations, however, would be far less labor intensive than traditional bank examinations because there would be no need to review and evaluate the quality of a large number of bank assets. Second, in the unlikely event that fail-proof banks should ever experience a liquidity problem, they would be authorized to borrow from the central bank. For this purpose, these banks would have a large amount of

assets that could readily serve as collateral. Third, in the highly unlikely event that a fail-proof bank should ever fail, the government would provide 100 percent deposit insurance in order to assure the preservation of public confidence in the banking and payments systems. In conventional banking systems, deposit insurance is often criticized because it tends to remove market discipline and encourage bank management to take greater risks. This would not be a problem in the context of fail-proof banking, because banks would be prohibited from taking risks.

The fact that fail-proof banks would be forbidden to take credit risk could severely curtail the availability of credit in the economy, particularly since banks in many countries are the dominant financial intermediary. In order to counter this problem, individual banks would be authorized (and strongly encouraged by the government) to create a holding company that in turn would set up nonbank lending affiliates. These affiliates either could fund their own lending operations or be funded by the holding company parent. In addition to setting up lending affiliates, the holding company could create other types of financial affiliates that could perform a wide range of financial functions, including all of the functions that fail-proof banks would no longer be allowed to conduct.

To protect fail-proof banks' against possible harm from their holding company affiliation, all bank transactions with affiliates would be prohibited, except for those transactions that are absolutely necessary (such as the payment of reasonable bank dividends to the parent and the payment of a bank's pro rata share of the consolidated organization's tax liability). These necessary intercompany transactions would be subject to close supervisory review to assure that the bank was not being abused in any way.

It should be noted that, relative to conventional banks in a holding company structure, fail-proof banks would be particularly well protected from possible abuse. First, a fail-proof bank would not be exposed to a loss of public confidence in the event of the failure of a holding company affiliate. The reason is that depositors would know that the bank was sound and that their deposits were fully insured by the government. Moreover, in the highly unlikely event that depositors ignored these protections and commenced a bank run, the bank would have a sizeable amount of high quality, short-term assets that either would mature within a short period of time or could be sold at very little or no loss. Further, the bank would have access to the lender of last resort and would have a large portfolio of acceptable collateral. Second, there would be minimal risk that a bank would be forced into adverse transactions with a failing holding company affiliate because the bank would be prohibited from engaging in almost all types of intercompany transactions. Moreover, those very few types of transactions (like the payment of dividends and taxes) that would be permitted would be subject to close supervisory scrutiny. Finally, banks would not be exposed to possible "piercing of the corporate veil" -- that is, a suit brought by creditors of a failed holding company affiliate to force the bank to honor the obligations of the affiliate. In most countries, such suits would not be sustained unless the bank had intermingled its business affairs with the affiliate -- something that would be virtually impossible, given the severe restrictions on intercompany transactions by fail-proof banks.

The implementation of a fail-proof banking system would require very large changes in the balance sheets of banks and other participants in the financial system. In particular, banks would have to alter their portfolios by getting rid of their existing risk assets and

replacing them with riskless assets. Banks could accomplish this through a series of transactions in the open market.

Alternatively, assuming that banks create holding companies (as they probably would, given the strong incentives to do so), banks could sell their risk assets to holding company affiliates and use the proceeds to acquire riskless assets in the market. In order to fund their purchase of risk assets from the banks, holding company affiliates (or the parent company) would have to issue debt in the market.

As discussed earlier, fail-proof banks would be required to hold a minimal amount of capital to absorb irreducible risks, including fraud. However, this amount of capital would be considerably less than the amount that banks currently hold. Consequently, banks could pass this excess capital up to the holding company in the form of a special dividend.

In summary, once all required transactions were completed, banks would look much like present day money market funds. On the asset side of their balance sheet, they would hold short-term, riskless assets. On the liability side, they would have both transactions and short-term time deposits. The holding company part of the banking organization would hold risk assets acquired from the banks and would have debt outstanding to the nonbank sector of the financial system. The nonbank sector of the financial system would end up holding the newly issued debt of holding company affiliates, which they would pay for by selling riskless assets to fail-proof banks.

Benefits of Fail-Proof Banking

The implementation of fail-proof banking would produce a number of public benefits. The most important is that the nation would be assured of the long-term stability of its banking system. As a result, the nation's money supply and payments system would be protected from future disruptions, and the government would never be forced to intervene and restructure the banking system, at potentially considerable cost to the public budget. A fail-proof banking system also would provide depositors with a totally safe, conveniently available financial asset that would pay a market rate of return. This result would contribute to social welfare, particularly in the case of small depositors, who tend to put a high premium on the preservation of principal.

Another benefit of fail-proof banking is that it would permit a substantial reduction in the cost of regulating the banking and financial systems. In banking, the large amount of resources devoted to the day to day supervision and examination of banks would be greatly scaled back. One reason is that bank portfolios would no longer have to be reviewed and evaluated by bank examiners. In addition, bank examiners would no longer have to monitor various risk-bearing activities, such as securities trading and foreign exchange operations, in which banks may presently engage. Instead, under fail-proof banking, examiners would focus their attention solely on determining whether banks were complying with the various fail-proof banking restrictions, whether any permissible bank transactions with affiliates were carried out on reasonable terms, and whether there was any evidence of bank fraud.

In addition to reducing the costs of bank supervision, the creation of a fail-proof banking system would prevent the future spread of bank-type regulation to other sectors of the financial system, as could happen over time if conventional banks were permitted to expand into new types of financial activities. Under the proposal, any new services offered by banking organizations would have to be carried out by holding company affiliates, which would be subject to market discipline, rather than government regulation.

Fail-proof banking also would contribute to the improvement of competition in the financial sector. In many countries conventional banks are now prevented from entering certain financial activities that are deemed to be too risky. With fail-proof banking, banking organizations could engage in these activities through holding company affiliates, thereby increasing the number of competitors in the activity. Also, fail-proof banking would tend to promote competitive equality between banking organizations and their nonbank rivals. By prohibiting banks from lending to holding company affiliates and forcing these affiliates to do their own funding, fail-proof banking would prevent banks from transferring to their affiliates the funding advantages that various forms of government protection often accord banks. Second, fail-proof banking would level the playing field between holding company affiliates and nonbanking firms by subjecting both groups to the same degree of regulation. Under the arrangement, holding company affiliates would not be subjected to bank-type regulation. As a result, in those nonbanking activities that are subject to other forms of regulation, these affiliates would be regulated just like nonbanking firms. Likewise, in those nonbanking activities that are not subject to regulation, both holding company affiliates and their nonbanking rivals would be subject only to the discipline of the marketplace.

Implementation Problems

While the creation of a fail-proof banking system would clearly produce important public benefits, it might not be feasible to implement the proposal, even in relatively robust financial systems. The most serious potential implementation problem is that there may not be sufficient riskless assets in the financial system to allow all fail-proof banks to meet the requirement that they hold riskless portfolios.³ Moreover, even if there were sufficient riskless assets available for these banks, there might not be enough riskless assets left over for other participants in the financial system that might want to hold such assets.

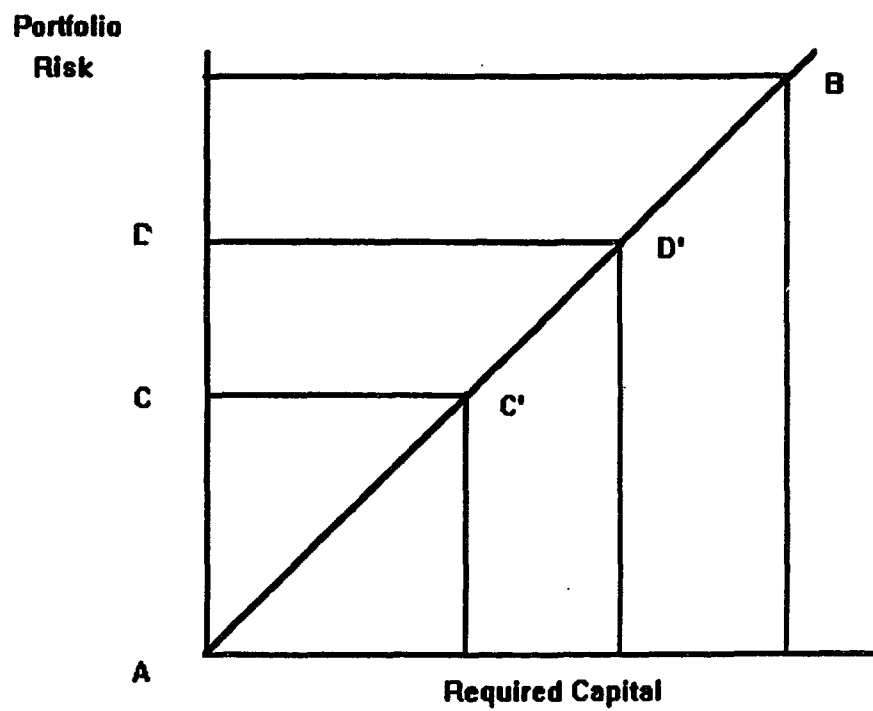
The most obvious way to solve this potential implementation problem would be to relax, at least to some extent, the severe portfolio restrictions placed on banks, but find some risk-reducing offset that would maintain the fail-proof character of the banking system. Up to this point in the study, it has been assumed that the only way for banks to achieve fail-proof status is to take all of the risk out of banking. However, it is theoretically possible for banks to achieve fail-proof status by assuming some degree of portfolio risk, so long as this risk is fully offset by higher bank capital requirements. This proposition is shown in Figure 1 where line AB represents alternative combinations of portfolio risk and required capital that would be consistent with banks achieving fail-proof status.

For purposes of discussion, assume that point C on the vertical axis is the lowest level of portfolio risk that it is feasible for fail-proof banks to achieve, given the current mix of

³For a detailed discussion of the problems of implementing a fail-proof banking system in the United States, see Robert J. Lawrence and Samuel H. Talley, "Implementing a Fail-Proof Banking System," Proceedings of a Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 1988, pp. 344-59.

FIGURE 1

**Combinations of Portfolio Risk
and Required Capital
Consistent with Fail-Proof Banking**



assets available in financial markets. All points above point C are feasible portfolios, while all points below are infeasible. Based on this assumption, the fail-proof banking concept could be modified to allow banks to select any combination of portfolio risk and required capital (any point on line AB), so long as the portfolio is feasible (at or above point C' on line AB).

In the real world, it is generally much more difficult to accurately predict the level of losses for high risk portfolios than for low risk portfolios. As a result, there would be a tendency to introduce some degree of uncertainty of actually attaining a fail-proof banking system if banks were allowed to move to higher combinations of portfolio risk and required capital (to higher points on line AB). Consequently, for pragmatic reasons, it would probably be desirable for the modified fail-proof banking concept to place some upper limit on permissible combinations of portfolio risk and required capital (for example, not allowing banks to move beyond point D' on line AB). In practice, this would probably mean that banks would be limited to holding portfolios made up of riskless and relatively low risk assets.

While relaxing the severe portfolio restrictions placed on fail-proof banks is the most obvious way to overcome an insufficiency of riskless assets, it also might be possible to overcome this problem by reducing fail-proof banks' demand for such assets. This could be done by limiting the types of deposits that fail-proof banks can issue to interest-bearing transactions accounts. These deposits are the ones that are associated with the crucial functions that banks perform -- operating the payments system and providing the bulk of the nation's money supply. By contrast, the issuance of time deposits provides the public with

an investment vehicle -- a function that could be readily performed by other entities in the financial system.

Financial Market Effects

Even if the fail-proof banking proposal were modified to allow banks to acquire low risk assets, the portfolio transactions that banks would be required to make almost certainly would result in considerable pressures and short-term dislocations in financial markets. There are two ways that banks could adjust their portfolios to meet the riskless or low risk portfolio requirement. First, banks could sell all of their higher risk assets in the open market and use the proceeds to buy riskless or low risk assets. These transactions would tend to drive up interest rates on higher risk assets and drive down interest rates on riskless and lower risk assets, thereby increasing existing interest rate differentials between these two groups of assets. The second (and more likely) way for banks to adjust their portfolios would be to sell their riskier assets to holding company affiliates and use the proceeds to buy riskless and low risk assets in the open market. Holding company affiliates, in turn, would have to issue debt in the open market in order to fund their asset purchases from the banks. The end result of this second alternative would be the same as the first -- a widening of existing interest rate differentials. Bank purchases of riskless and low risk assets would drive down the rates on these assets, and the debt issued by holding company affiliates would drive up rates on higher risk assets. It is assumed that the debt issued by holding company affiliates

would be in the higher risk category because the portfolios of these affiliates would consist of higher risk assets.

The widening of existing interest rate differentials would produce both winners and losers in financial markets. The winners would be riskless and low risk borrowers, who would be able to borrow at lower rates than previously. This group of borrowers presumably would include the national government and those business and local government borrowers that already have high credit ratings or can obtain credit enhancements at an acceptable price. The losers would include all other borrowers who have lower credit ratings and could not obtain or afford credit enhancements. This group of borrowers presumably would include most businesses and local governments, and virtually all consumers.

The extent to which existing interest rate differentials would widen would depend on two primary factors: (1) the size of the nation's banking system, because this would determine the magnitude of the required portfolio adjustments; and (2) the depth and responsiveness of the nation's financial markets. In most developed countries, the banking system is an important, but not dominant, factor in the financial system. Likewise, financial markets tend to be quite deep and responsive to pressures. In contrast, in developing countries the banking system tends to dominate the financial system, and financial markets tend to be shallow and unresponsive to pressures. As a result, it is probable that the implementation of fail-proof banking would have a substantially greater effect on rate differentials in developing countries than in developed ones. Moreover, it is possible that in many developing countries the increase in interest rates on higher risk assets would be so large that it would force most higher risk borrowers out of the market.

In addition to increasing interest rate differentials, the implementation of a fail-proof banking system would shift risks now lodged in the banking system to other participants in the financial system. Assuming that banks chose to set up holding companies and then sold their higher risk assets to holding company affiliates, these affiliates would take on substantial portfolio risk. In addition, the nonbank sector of the financial system would take on greater risk because this sector would acquire risk-bearing holding company debt, while selling riskless and low risk assets to fail-proof banks.

The implications of increasing the risk exposure of the nonbank sector are difficult to evaluate except in the context of known situations. However, a major problem could arise if a sizeable portion of the increased risk were lodged in certain financial institutions, such as insurance companies, whose soundness has important public policy implications. Moreover, these nonbank institutions typically do not have the governmental support mechanisms, such as access to the lender of last resort, that are normally accorded to banks.

Summary and Conclusion

Public policy proposals tend to fall into two broad groups -- those that advocate essentially marginal changes in well functioning systems, and those that call for radical changes in systems that are perceived to be seriously deficient. The fail-proof banking proposal clearly falls into the latter category. The proposal is based on the view that nations have improperly designed their banking and financial systems, and only radical changes can correct the situation. In particular, nations have given crucial functions to banks, including

operating the nation's payments system and providing the bulk of the nation's money supply, and then allowed these banks to take sizeable risks and engage in nonessential functions that have often undermined these crucial functions. The fail-proof banking proposal would alter this situation by turning banks into limited purpose, riskless institutions that would permanently guarantee that banks would perform their crucial functions effectively.

In order to facilitate the large scale transformation of the financial system that the creation of a fail-proof banking system would require, the proposal would employ a policy variable -- changes in the organizational structure of banks -- that nations have seldom relied upon. By creating holding companies, banking organizations would be able to operate fail-proof banks, while continuing to conduct all previous activities through affiliated companies. Moreover, the creation of holding companies would assure that the wide-ranging skills now possessed by banks could be retained within the same consolidated organization.

As indicated in this paper, the public benefits from installing a fail-proof banking system would be impressive. Such a system would assure that a nation would have a smooth functioning payments system and a stable money supply. Also, fail-proof banking would greatly reduce the resources that must be devoted to the supervision and regulation of banks, would avoid the threat of a gradual expansion of bank-type regulation throughout the financial sector as banks expand the scope of their activities over time, and would establish a more level competitive playing field between banking and nonbanking organizations in those financial areas where they compete.

There are two major problems with attempting to establish a fail-proof banking system. First, it may not be feasible to establish such a system, at least in its "pure" form,

because of an insufficiency of riskless assets in the financial system. However, this implementation problem probably could be overcome in some countries by also allowing fail-proof banks to hold low risk assets and offsetting the resulting portfolio risk with higher capital requirements. In the event that this modification was not sufficient, banks could be confined to issuing only transactions deposits, thereby shrinking the size of banks and the amount of riskless and low risk assets that they would need to hold.

The second major problem with the fail-proof banking proposal is that it would have certain adverse financial market effects. First, the proposal would alter the existing interest rate structure and lead to higher interest rates for most borrowers -- all of those who are not riskless or low risk borrowers. These increased interest rates also might force some of these higher risk borrowers out of the market. Second, assuming that the overall risk of the financial system is not materially changed, the creation of a fail-proof banking system would result in the nonbank sector of the financial system becoming riskier and more susceptible to financial crises.

In general, it is expected that the creation of fail-proof banking systems would produce greater benefits in developing countries than in developed one. The reason is that developing countries are much more prone to banking instability, in part due to having less stable economies, less experienced bank management, and less effective bank supervision. On the other hand, it would be much more difficult to implement fail-proof banking systems in developing countries. These countries typically have only very limited amounts of riskless and low risk assets in their financial systems. In addition, the destabilizing effects of the proposal on financial markets would be much greater in developing countries because:

(1) banks tend to dominate the financial system; and (2) financial markets are typically thin and would be much less able to accommodate large scale financial asset transactions without dramatic changes in the structure of interest rates.

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